

## **REMARKS**

The issues outstanding in the Office Action mailed July 28, 2008, are the rejections under 35 U.S.C. 112 and 103. Reconsideration of these issues, in view of the following discussion, is respectfully requested. The Examiner is thanked for indicating consideration of the Information Disclosure Statement and withdrawal of the Requirement for Restriction.

### **Rejection under 35 U.S.C. 112**

Claims 2 and 15 have been rejected under 35 U.S.C. 112, second paragraph. Reconsideration of this rejection is respectfully requested.

In claim 2, the inadvertently omitted definition of X has been restored (see original claim 2) and the definition of R' has been clarified. It is submitted that it was clear to one of ordinary skill in the art that the definition of R' referred to non-"fluorinated" materials, in view of the entirety of the clause. The scope of claim 2 has not been changed by these clarifying amendments, either literally or for purposes of the doctrine of equivalents.

With respect to claim 15, the claim has been clarified in a self-evident manner. It is submitted that the scope of this claim has also not been changed either literally, or for purposes of the doctrine of equivalents.

Withdrawal of the rejection under 35 U.S.C. 112 is respectfully requested.

### **Rejection under 35 U.S.C. 103**

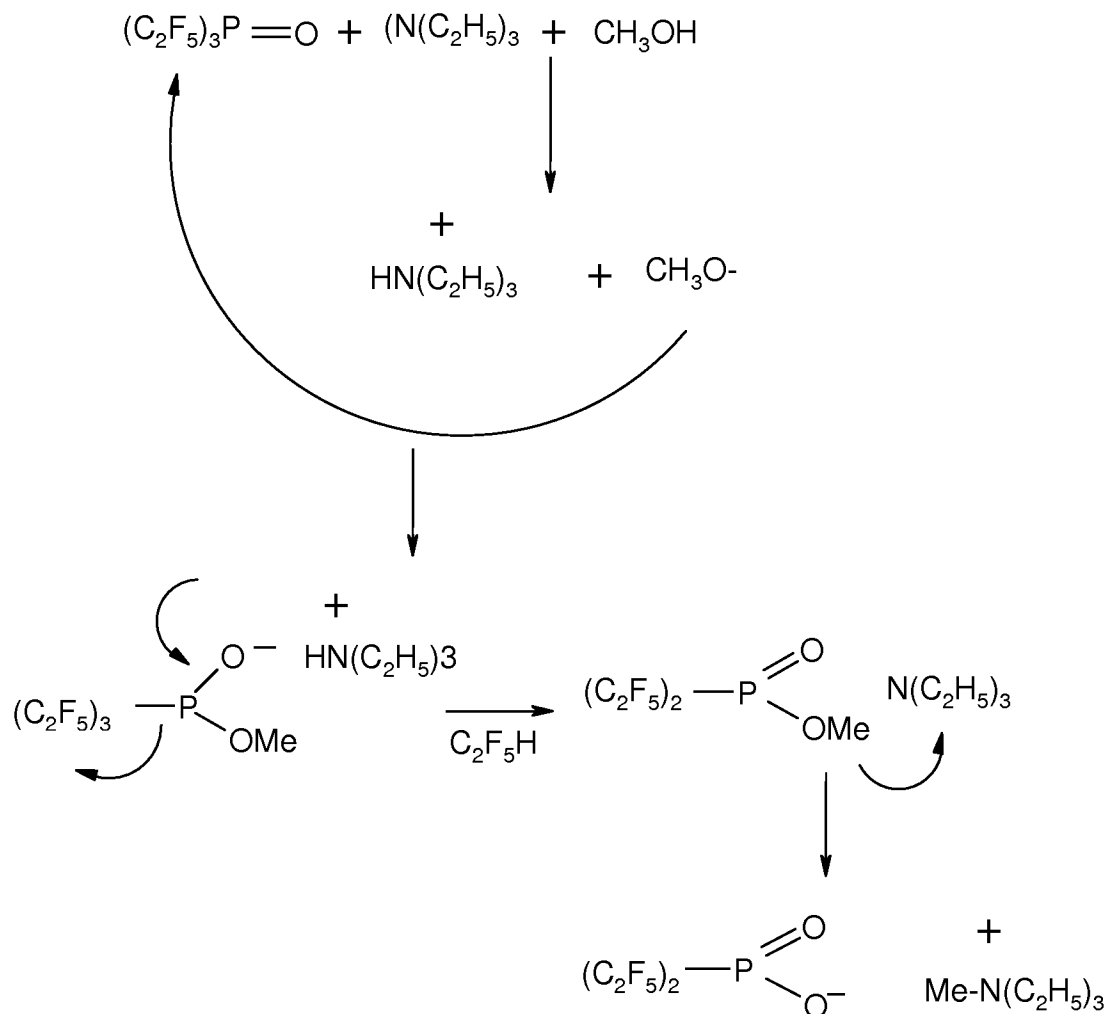
Claims 1-16 have been rejected under 35 U.S.C. 103 over chemical abstracts no. 111:194893 (Pavlenko). Reconsideration of this rejection is respectfully requested.

It is argued at page 4 of the Office Action that Pavlenko discloses a process of making bis(perfluoroalkyl)-phosphinate by reacting tris(perfluoroalkyl) phosphine oxide in the presence of methanol. This is respectfully submitted to be incorrect. Pavlenko does not disclose the preparation of bis(fluoroalkyl) phosphinic acids by reacting the phosphine oxide in the presence of methanol. In fact, as believed to be clear from the reaction disclosed in the abstract, the reaction of tris(heptafluoropropyl)phosphine oxide with methanol as described by Pavlenko et al.

leads to the formation of dimethylether and bis(heptafluoropropyl)phosphinic acid. Accordingly, it appears that there is a misunderstanding of the reference in the Office Action.

Pavlenko teaches that the bis phosphinic acid is converted into its salt by converting the acid first into an activated derivative such as the acid chloride, which chloride then reacts with methanol in the presence of triethylamine. The addition of a base such as triethylamine to the reaction product of Pavlenko's first reaction, which reaction product is the acid, results in simple protonation of the base. If triethylamine were used in the present process, along with methanol, the triethylamine would be methylated and the salt of the phosphinic acid would not be produced.

The Office Action appears to argue that it would be a simple matter of "optimization" to use a base which is more basic than the alcohol, as recited in the present claims. However, the Office Action gives no basis for this conclusion, and it is submitted that it is untrue. The use of a base which is more basic than the alcohol, as claimed herein, is not simply optimization of a known result-effective variable. "Optimization" can only be obvious were it is of a known, result-effective variable, see *In re Yates*, 211 U.S.P.Q. 1149 (CCPA 1981), holding that where an operating variable in a process is not recognized as result-effective, it is not obvious to optimize that variable by routine changes. On the one hand, the use of a material more strongly basic than the alcohol in the present claims is not a relevant consideration in the process of Pavlenko, inasmuch as pH is not relevant in an acid/base equilibrium as in the reference, but only relevant in a system such as that presently claimed. On the other hand, the use of a more basic material in the present reaction, in fact, results in a different product. In the process herein, the organic base reacts first with the phosphine oxide, leading to generation *in situ* of the alkoxide ( $\text{CH}_3\text{O}^-$ ), followed by nucleophilic attack on the phosphine oxide, which results in the formation of an intermediate ester, which then attacks the base resulting in alkylation (methylation, if methanol is used) of the base and formation of the phosphinate anion as follows:



Accordingly, it is submitted that the Pavlenko process not only produces a different product than that of the presently claimed process, but that there is simply no reason for one of ordinary skill in the art to modify the reference process in a way so as to result in that claimed herein. Withdrawal of the rejection is therefore respectfully requested.

The claims in the application are submitted to be in condition for allowance. However, if the Examiner has any questions or comments, he or she is cordially invited to telephone the undersigned at the number below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

/Harry B. Shubin/

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